

Date: Thursday, 04/09/2008 1:24:29 PM
 User: Julie Lecocq

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	FWD TUBE ASSEMBLY
Job Number :	41837		
Estimate Number :	10467		
P.O. Number :		Part Number :	D3391021
This Issue :	04/09/2008	S.O. No. :	
Prsht Rev. :	NC	Drawing Number :	D3391 REV G
First Issue :	/ /	Project Number :	N/A
Previous Run :	41836	Drawing Revision :	G
	Type :	Material :	
	SKIDTUBES	Due Date :	25/09/2008
Written By :		Qty:	1
Checked & Approved By :	JLD 08.9.04	Um:	Each
Comment :	Est. A 05.09.13 New issue KJ/JLM Est. B 06.02.10 Dwg rev.D ecn 773 EC Est. C 06.05.02 Added inspections EC est D 07.03.13 rev F dwg EC est E 07.11.07 revG dwg ecn1053P EC verified by: DD Est Rev:f ECN 1056 07-11-12 DD verified by: EC		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
----------------	------------------------------	----------------------

1.0	D6013047	Skidtube Material
-----	----------	-------------------



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)
 SKIDTUBE MAT'L

Pick:

Qty	Part Number	Description	Batch
1	D6013-047	Extrusion	26547

RT 08-09-05

2.0	SKIDTUBES 1	SKIDTUBESS RESOURCE 1
-----	-------------	-----------------------



Comment: LANDING GEAR RESOURCE 1
 Cut extrusion to 46.52 +0.010 -0.020

RT 08-09-05

3.0	BENDING	BENDING MACHINE - SKIDTUBES
-----	---------	-----------------------------



Comment: Nc bender
 Bend as per Dwg D3391 Using Bend Prog 3391021

RT 08-09-05

4.0	QC5	INSPECT WORK TO CURRENT STEP
-----	-----	------------------------------



Comment: INSPECT WORK TO CURRENT STEP

S 08/08/05 @

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 04/09/2008 1:24:29 PM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 41837

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

HAAS1

HAAS CNC VERTICAL MACHINING #1



Comment: HAAS CNC VERTICAL MACHINING #1

1-Machine as per Folio FA590 Rev. F & Dwg D3391 Rev. G

Identify as D3391-1

2-Deburr

J.L 08/09/07

6.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

J.L 08/09/07

7.0

MILLING CONV.

CONVENTIONAL MILLING MACHINE



Comment: CONVENTIONAL MILLING MACHINE

Drill X1 Aft cap as per Dwg D3391 .1875" dia

mt 08/09/11

8.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

mt 08/09/11

9.0

QC8

SECOND CHECK



Comment: SECOND CHECK

J.L 08-09-11

①

10.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill float bag holes as per Dwg D3391 using DT8798(Do not open tow cap holes to finish size)
(ONLY DRILL HOLES MARKED "A")

2-Drill Remaining two holes for tow cap using DT 8819 Locating off of .1875" holes drilled in previous step

3-Open tow cap holes to .208" as per Dwg D3391

4-Open Tow Ring hole to .640" as per Dwg D3391

5-Deburr & Scribe Batch number Inside aft end.

6-Transfer drill D3391-021 with D3391-023

K
2912

DP 8-9-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 04/09/2008 1:24:29 PM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 41837

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

11.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/09/18 @

12.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

M-L 08/09/18

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

D 11-9-22

14.0

D36704200

SPACER



Comment: Qty.: 4.0000 Each(s)/Unit Total : 4.0000 Each(s)

SPACER

batch:

B 41615 @ 11-9-22

15.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-instal spacers as per dwg D3391

A/R Magnabond 6398

batch:

exp. date:

cure time 12hrs. as per QSI015

M 108966 11-9-22

2- grind crossbolt flush

11-9-23

3-back drill crossbolt if necessary

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

S 08/09/23 @

17.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

START TIME:

OVEN TEMPERATURE:

8:15
320 OF

M-L 08/09/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 04/09/2008 1:24:29 PM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 41837

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description:

FINISH TIME:

8:45

M-1

08/09/24 (10)

18.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

FL 08/09/25 (1)

19.0

ALS41032130

Insert



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

INSERT

batch: m105819.

or equivalent

per QSI 017

FL

20.0

ALS41032225

Insert



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)

INSERT

batch: m100621.

or equivalent

per QSI 017

FL

21.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Install Inserts as per Dwg

FL 08/09/25 (1)

22.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/09/25 (1)

23.0

D3401041

Tow Cap Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

Tow Cap Assembly

Pick:

Qty	Part Number	Description	Batch
1	D3401-041	Tow Cap	D36216

FL 08/09/25 (1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 04/09/2008 1:24:29 PM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 41837

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

D356413

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
WEARSHOE *B41335*

FL.

25.0

D356613

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)
GASKET *B41862*

FL.

26.0

D36721

Phenolic Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s)
PHENOLIC WASHER *B39275*

FL.

27.0

AN3C4A

BOLT



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)

Bolt

Pick:

Qty

Part Number

Description

Batch

4

AN3C4A

Bolt

m109061

FL.

28.0

AN960C10L

washer



Comment: Qty.: 10.0000 Each(s)/Unit Total: 10.0000 Each(s)
washer *m108928*

FL.

29.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1
Install tow Cap as per Dwg D3391
Identify as D3391-021

FL 08/09/25 ^①

30.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP
Inspect thread of each insert using DT8821

08/09/29 ^②

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Thursday, 04/09/2008 1:24:29 PM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FWD TUBE ASSEMBLY

Job Number: 41837

Part Number: D3391021

Job Number:



Seq. #:

Machine Or Operation:

Description :

31.0

PACKAGING 1

PACKAGING RESOURCE #1



1/2

Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

PDP 41690

8/9/30

sf

32.0

QC21

FINAL INSPECTION/W/O RELEASE



08/10/2 JF

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



U 08-10-02

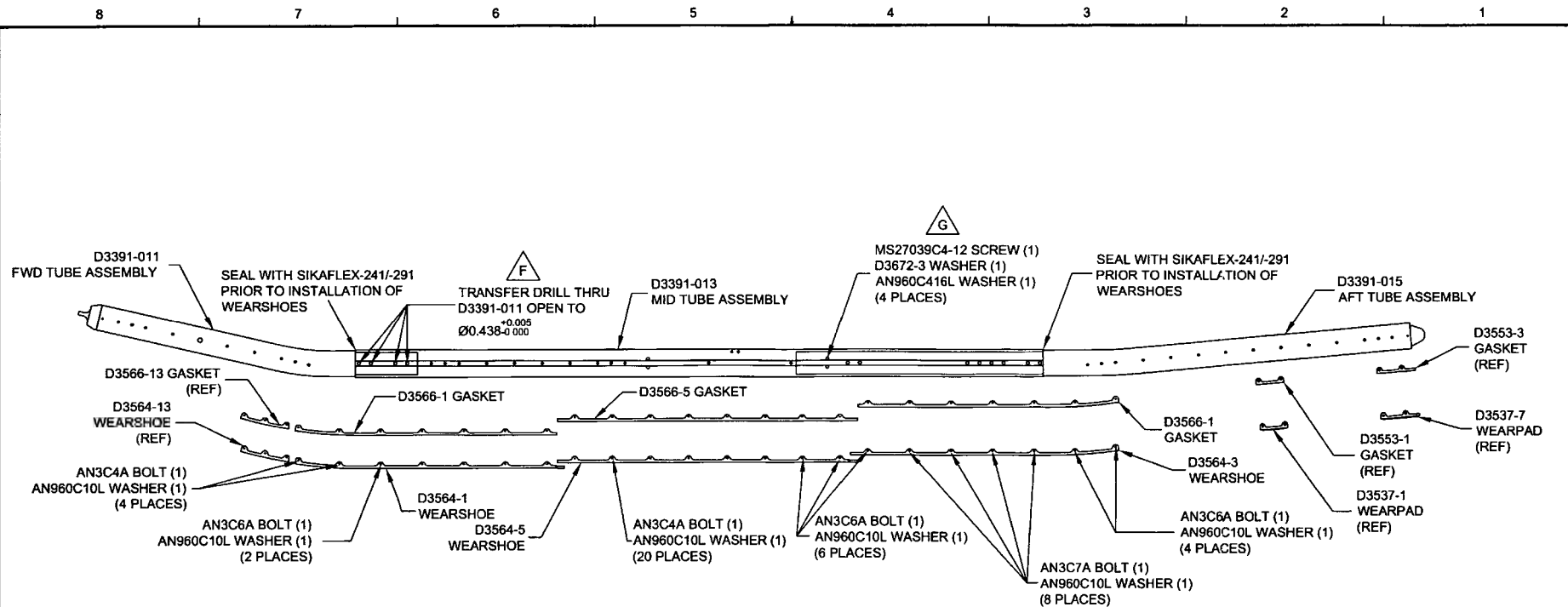
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-041 ASSEMBLY

RELEASED
27-11-06

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
4	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

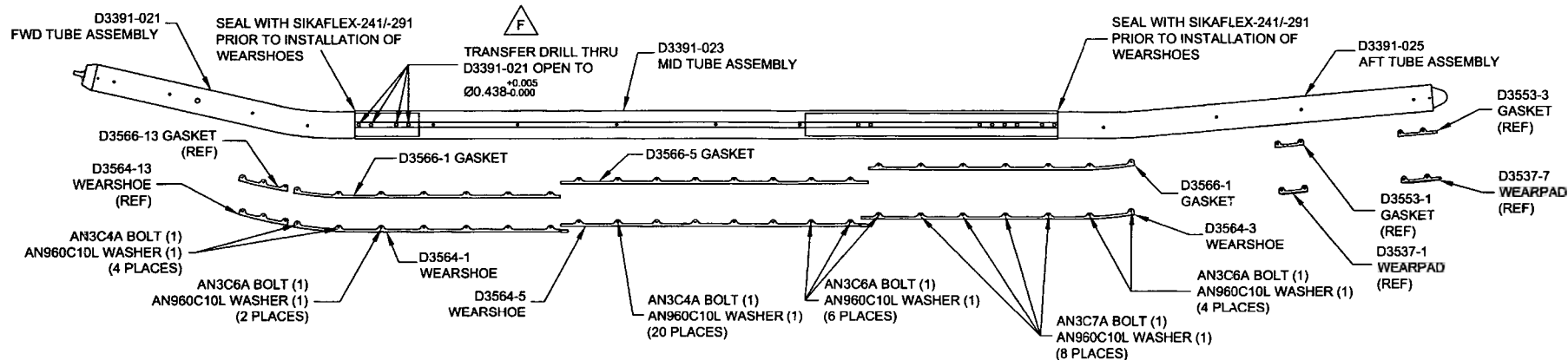
GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWJ SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	DE	PORT HADLOCK, WA	
CHECKED	DE	DRAWING NO.	REV. G
MFG. APPR.	DE	D3391	SHEET 1 OF 8
APPROVED	DE	TITLE	SCALE
DE APPR.	DE	412 FLOAT SKIDTUBE	NTS
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR FOR ANY OTHER PROJECT WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

NO. 41237
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY



D3391-043 ASSEMBLY

RELEASED
07.11.97

D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

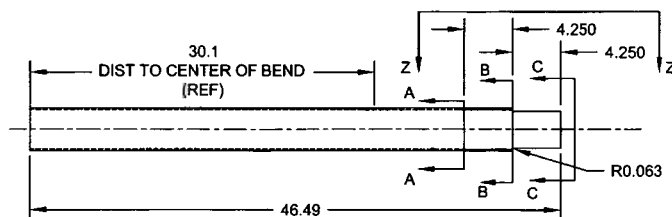
QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
24	AN3C4A	BOLT
12	AN3C6A	BOLT
6	AN3C7A	BOLT
44	AN960C10L	WASHER

GENERAL NOTES

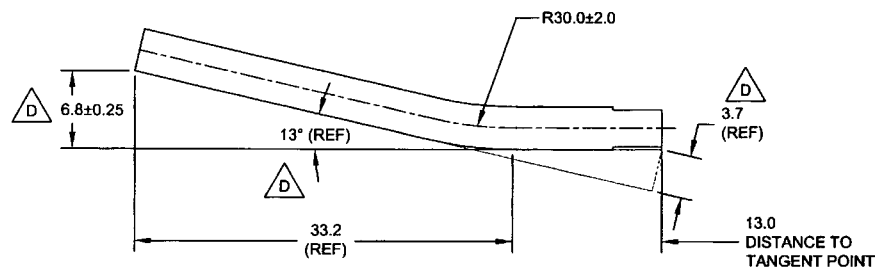
- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. CBORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	JLC	PORT HADLOCK, WA	
CHECKED	JS	DRAWING NO.	REV. G
MFG. APPR.	JP	D3391	SHEET 2 OF 8
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	412 FLOAT SKIDTUBE	NTS
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC	

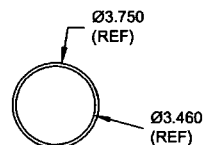
NO. 12837
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY



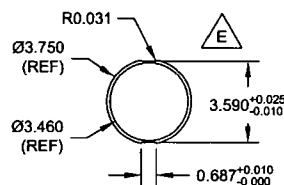
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



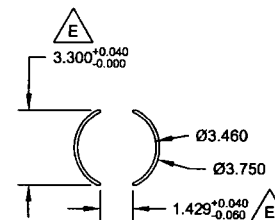
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



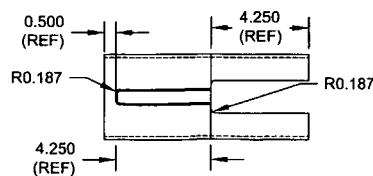
SECTION A-A
(SCALE 1:5)



SECTION B-B
(SCALE 1:5)



SECTION C-C
(SCALE 1:5)

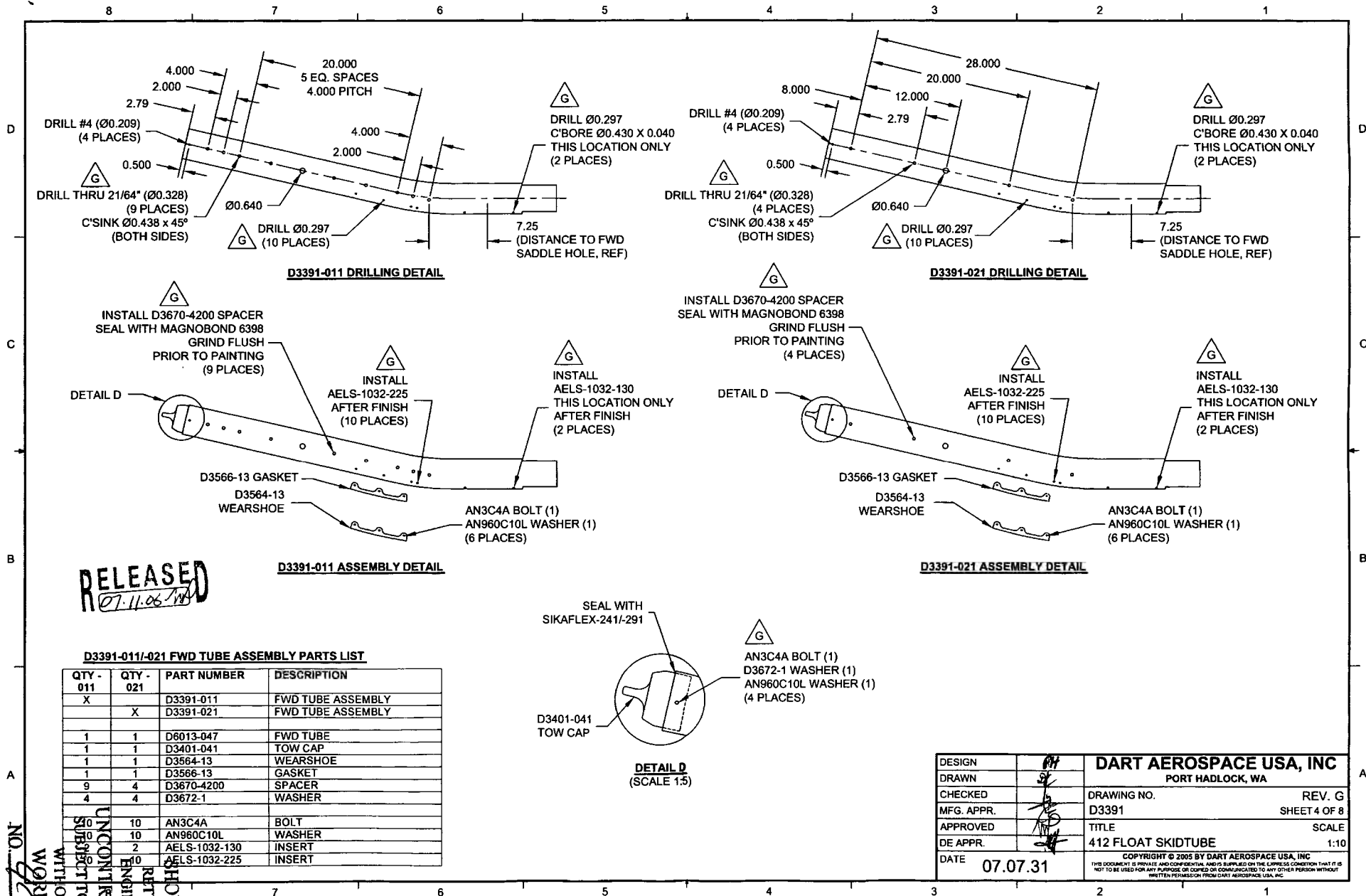


VIEW Z-Z
(SCALE 1:5)

RELEASED
07-11-06 10P

NO. 4837
WORK ORDER
WITHOUT NOTICE
SUBJECT TO AMENDMENT
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY

DESIGN		DART AEROSPACE USA, INC	
DRAWN	<i>[Signature]</i>	PORT HADLOCK, WA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. G
MFG. APPR.	<i>[Signature]</i>	D3391	SHEET 3 OF 8
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR	<i>[Signature]</i>	412 FLOAT SKIDTUBE	1:10
DATE	07.07.31	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	



RELEASED
07-11-06

NO. 92837
WORK ORDER
WITHOUT NOTICE
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
ENGINEERING
RETURN TO
SHOP COPY

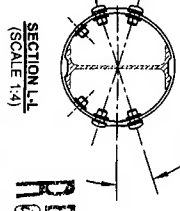
DESIGN		DART AEROSPACE USA, INC	
DRAWN		PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. G
MFG. APPR.		D3391	SHEET 4 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	1:10
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.			

NO. 10831
 WORK ORDER
 WITHOUT NOTICE
 UNCONTROLLED COPY
 RETURN TO
 SHOP COPY

D3391-013 MID TUBE ASSEMBLY
 1) MATERIAL: MAKE FROM D3500-1-100 EXTRUSION
 2) INSTALL D3391-1 WEB TO OUTER TUBE USING SIKAFLEX 241/291 PER CSI 015
 3) WELDING: PER DART QSI 004

QTY	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
12	D3389-1	SPACER
4	D3672-1	WASHER
4	D3672-3	WASHER
24	AEI-S-1032-130	INSERT
4	ALS4-428-165	WASHER
4	AN860C10L	WASHER
4	AN860C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

INSTALL ALS4-428-165 INSERT
 MS27039C4-08 SCREW
 D3672-3 WASHER
 AN860C416L WASHER
 AFTER FINISH
 (TYP 4 PLACES)



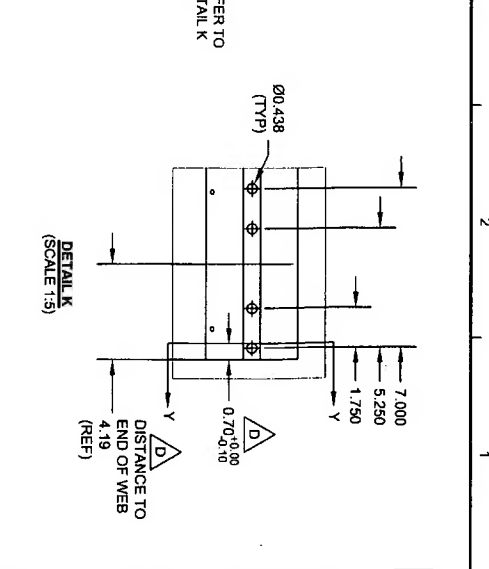
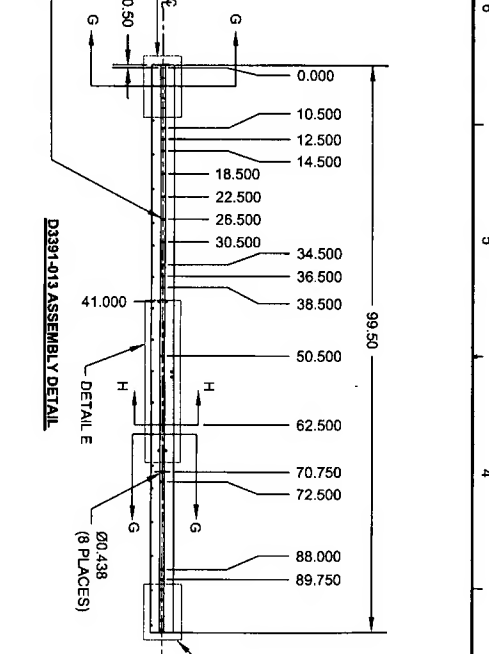
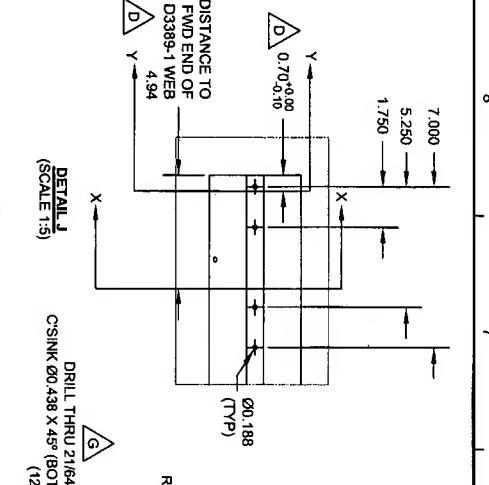
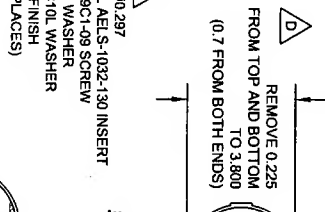
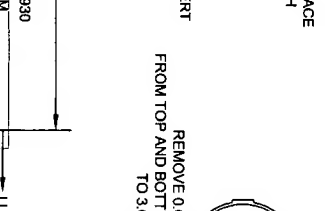
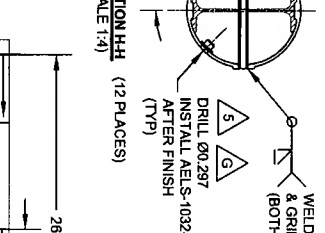
RELEASED
 07.11.2014

DESIGN	DATE	REV. G	TITLE
DRAWN	07.07.31	1	DART AEROSPACE USA, INC
CHECKED		2	PORT HADLOCK, VA
MFG. APPR.		3	DRAWING NO.
APPROVED		4	D3391
DE. APPR.		5	412 FLOAT SKIDTUBE
DATE		6	SCALE 1:20

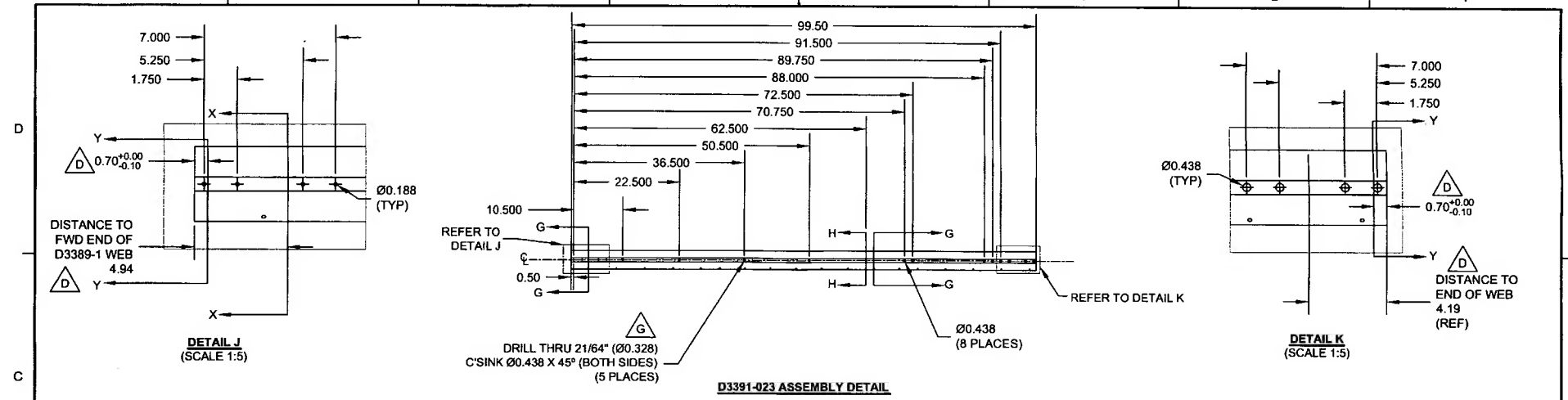
COPYRIGHT © 2008 BY DART AEROSPACE USA, INC.
 THIS DOCUMENT IS PROPERTY OF DART AEROSPACE USA, INC. AND IS LOANED TO YOU FOR YOUR USE ONLY. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE USA, INC.

D3391-013 MID TUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
12	D3389-1	SPACER
4	D3672-1	WASHER
4	D3672-3	WASHER
24	AEI-S-1032-130	INSERT
4	ALS4-428-165	WASHER
4	AN860C10L	WASHER
4	AN860C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW



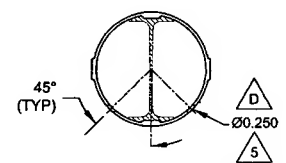
8 7 6 5 4 3 2 1



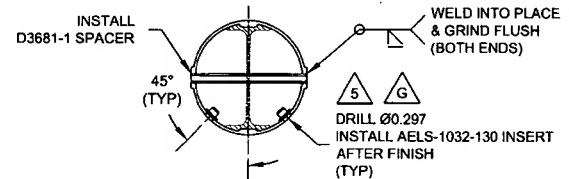
DETAIL J
(SCALE 1:5)

DETAIL K
(SCALE 1:5)

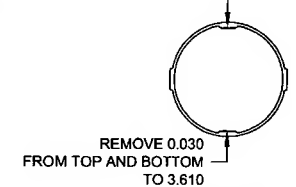
D3391-023 ASSEMBLY DETAIL



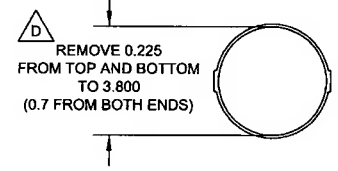
SECTION G-G
(SCALE 1:4)



SECTION H-H
(SCALE 1:4)



SECTION X-X
(SCALE 1:4)



SECTION Y-Y
(SCALE 1:4)

D3391-023 MID TUBE ASSEMBLY PARTS LIST

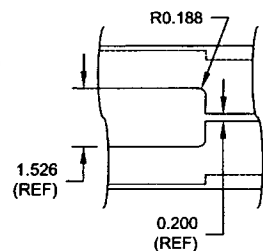
QTY -	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

RELEASED
07.11.06/11

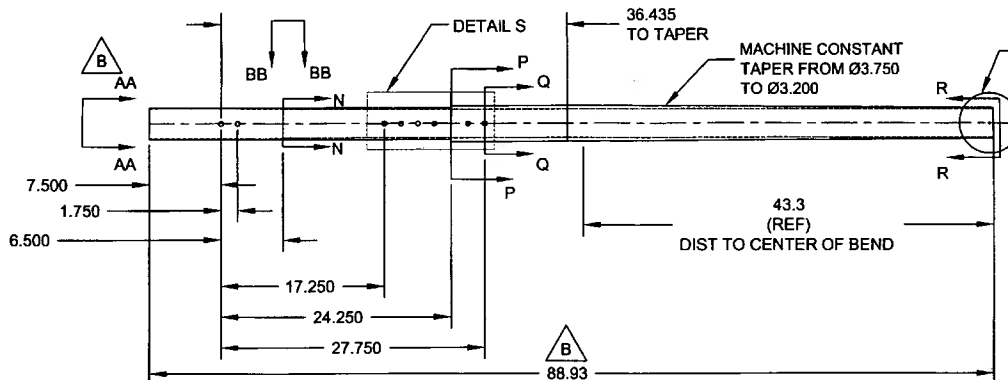
DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	DE	PORT HADLOCK, WA
CHECKED	h	DRAWING NO. REV. G
MFG. APPR.	W	D3391 SHEET 6 OF 8
APPROVED	W	TITLE SCALE
DE APPR.	W	412 FLOAT SKIDTUBE 1:20
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

D3391-023 MID TUBE ASSEMBLY
1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
3) WELDING: PER DART QSI 004

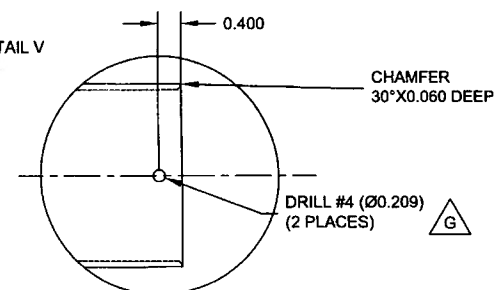
NO. 41837
WORK ORDER
WITHOUT NOTICE
ENGINEERING
RETURN TO
CONTROLLED COPY
SUBJECT TO AMENDMENT



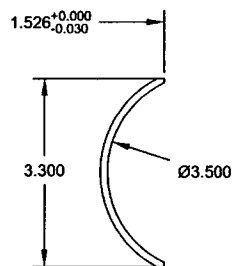
VIEW BB-BB
(SCALE 1:3)



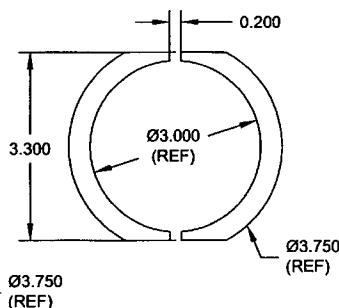
D3391-3 AFT DRILLING AND CUTTING DETAIL
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)



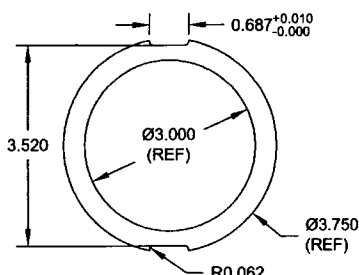
DETAIL V
(SCALE 1:2)



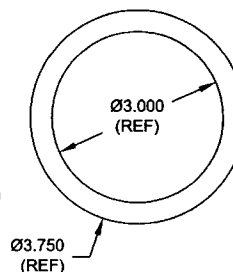
SECTION AA-AA
(SCALE 1:2)



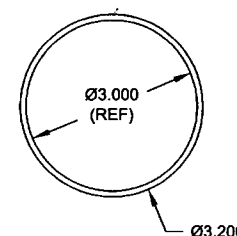
SECTION N-N
(SCALE 1:2)



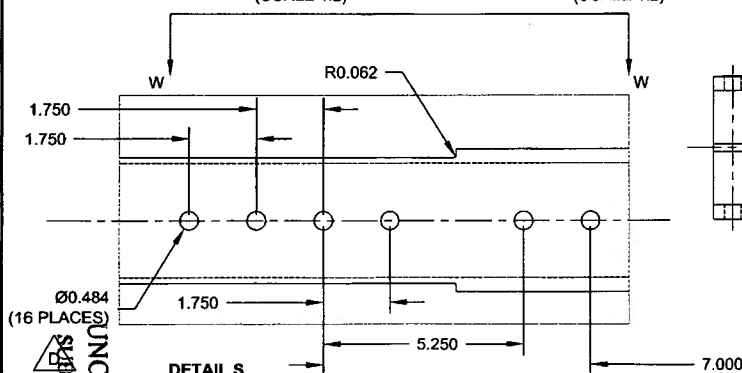
SECTION P-P
(SCALE 1:2)



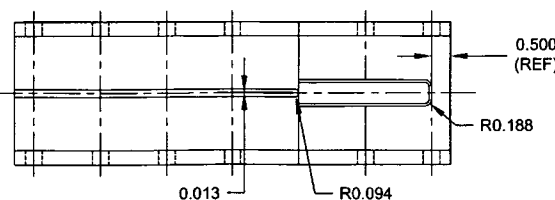
SECTION Q-Q
(SCALE 1:2)



SECTION R-R
(SCALE 1:2)



DETAIL S
(SCALE 1:3)

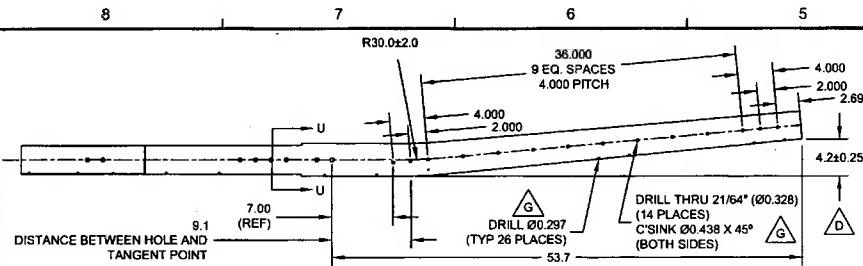


VIEW W-W
(SCALE 1:3)

RELEASED
07-11-06

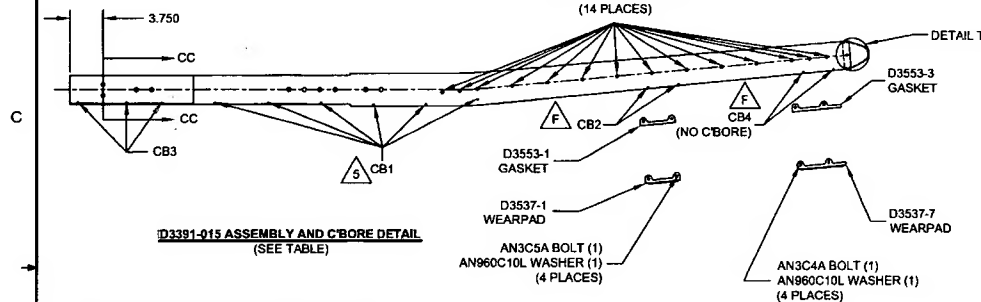
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	JLC	PORT HADLOCK, WA	
CHECKED	SEP	DRAWING NO. D3391	REV. G
MFG. APPR.	SEP	SHEET 7 OF 8	
APPROVED	SEP	TITLE 412 FLOAT SKIDTUBE	
DE APPR.	SEP	SCALE 1:12	
DATE	07.07.31	<small>COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.</small>	

NO. 41837
WORK ORDER
SUBJECT TO AMENDMENT
WITHOUT NOTICE
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY



D3391-015 BENDING AND DRILLING DETAIL
(SEE C'BORE DETAIL BELOW)

INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
(14 PLACES)



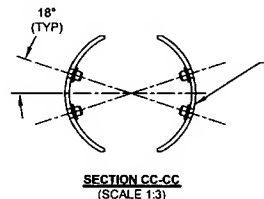
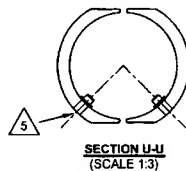
D3391-015 ASSEMBLY AND C'BORE DETAIL
(SEE TABLE)

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

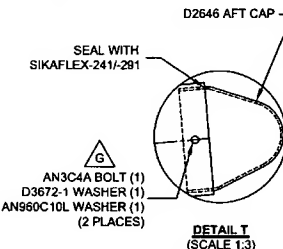
QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X	X	D3391-015	AFT TUBE ASSEMBLY
		D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4		ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

C'BORE HOLES MARKED CB1-CB4 AS FOLLOWS AND
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	C'BORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130



DRILL Ø0.391
C'BORE Ø0.516 X 0.040 DEEP
INSTALL ALS4-428-165 INSERT (1)
(4 PLACES)



RELEASED
07-11-06

DESIGN	PH	DART AEROSPACE USA, INC
DRAWN	DK	PORT HADLOCK, WA
CHECKED	JS	DRAWING NO. REV. G
MFG. APPR.	JD	D3391 SHEET 8 OF 8
APPROVED	LA	TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE 1:12
DATE	07.07.31	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR REPRODUCED IN ANY FORM OR BY ANY MEANS WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

NO 17837
WORK ORDER
WITHOUT NOTICE
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
EFFECT TO AMENDMENT